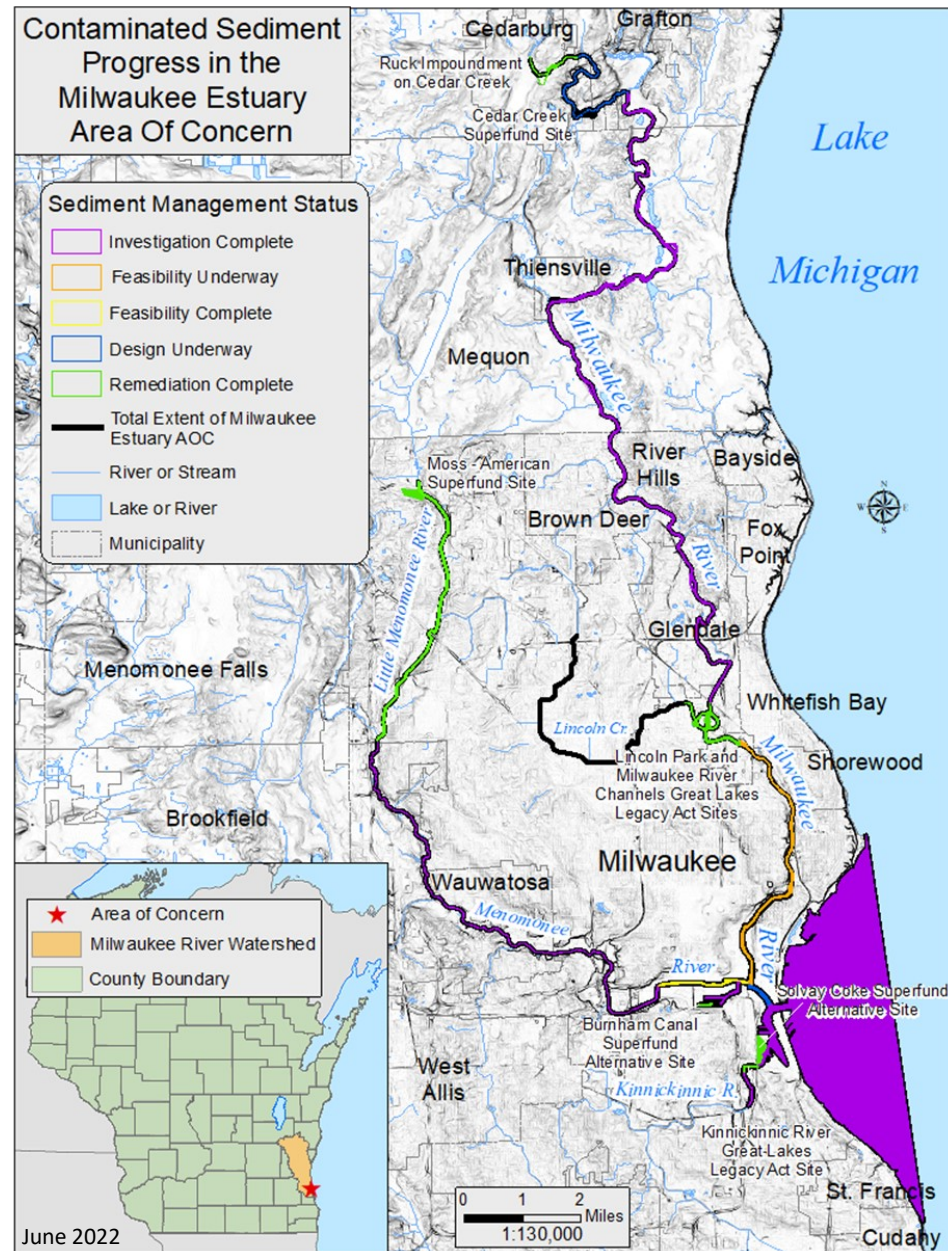


Milwaukee Estuary Area of Concern

We will achieve our goal of removing the Milwaukee Estuary from the list of most polluted sites on the Great Lakes when public uses are no longer impaired by pollution, and when fish and wildlife and their habitats are sustainably restored. As toxic sediments are removed and habitat restoration continues, the rivers and lakeshore are becoming ever more valuable resources for recreation and the local economy.



To learn more about Milwaukee Estuary Area of Concern projects and progress visit <https://dnr.wi.gov>, search "[Milwaukee AOC](#)." For more details, refer to the Remedial Action Plan Updates.



Above: Dredging at Lincoln Park removed toxins from the riverbed that harmed fish and wildlife and their habitats. Photo: Duane Thomas, EA Engineering.

Milwaukee Estuary Area of Concern

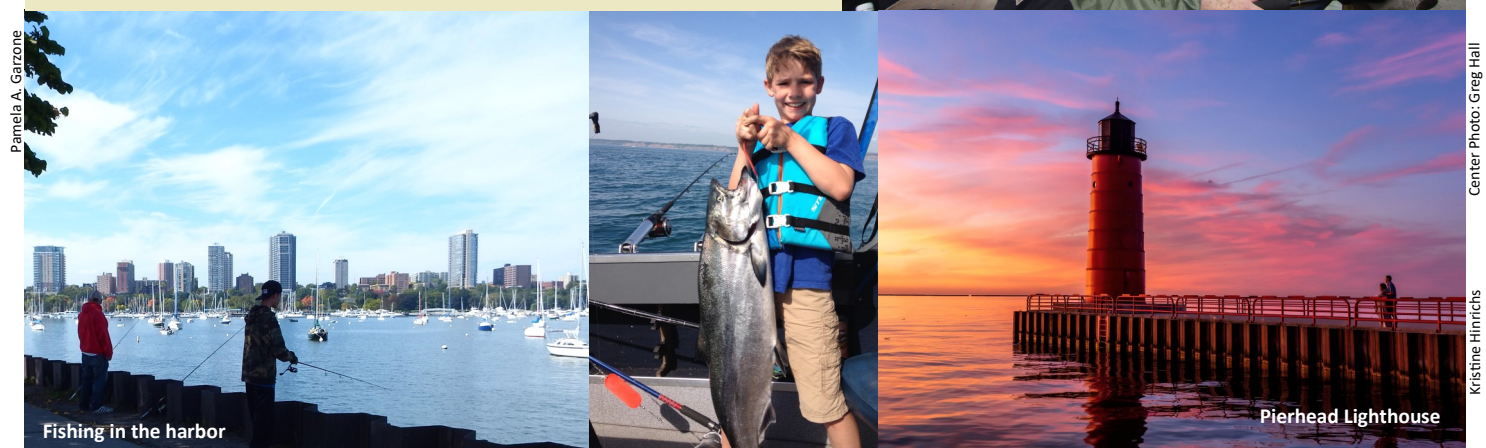
BENEFICIAL USE IMPAIRMENT RESTORATION REPORT

Fall 2022

The Milwaukee Estuary was designated an Area of Concern (AOC) in the 1980s because contaminated river sediment impaired public benefits such as clean water, fish consumption, recreational opportunities, and healthy fish and wildlife populations.



Juvenile Lake Sturgeon



Pamela A. Garzone

Fishing in the harbor

Kristine Hinrichs

Pierhead Lighthouse

Center Photo: Greg Hall



Gail Epping Overholt

Kayaking the Milwaukee River

The Wisconsin Department of Natural Resources and citizen groups identified 11 Beneficial Use Impairments (BUIs) to target here for improving the rivers and estuary.

See the progress report inside →

Milwaukee Estuary — part of the largest fresh surface water resource in the world — the Great Lakes ecosystem.



Wisconsin Department of Natural Resources, Office of Great Waters

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Gail Epping Overholt

Milwaukee River



Marc Ponto

Children playing at Bradford Beach

Milwaukee Estuary AOC – Restoration Status Update

Tackling Area of Concern problems, known as Beneficial Use Impairments in the AOC program, requires several steps. We must first understand the causes and define the extent of the problems through monitoring, assessment and data analysis. We then determine the necessary actions to fix the problems and implement them. Actions to address AOC problems are anticipated to be completed by 2030 with funding support from the federal Great Lakes Restoration Initiative and Bipartisan Infrastructure Law. Although projects are large and complex, coordinated efforts by many partners and community members will ensure success. After projects are completed, we then monitor to verify if we have achieved our goals for pollution cleanup and restoration. Once all impairments are removed, the Milwaukee Estuary can be removed from the list of most polluted sites on the Great Lakes.

This report shows the status of the removal process for 11 impairments in the Milwaukee Estuary AOC.

Impairment Removal Steps:

- MA MONITOR & ASSESS:** define problems, gather data, consult with experts and engage stakeholders.
- DP DEVELOP AOC PROJECTS:** engage stakeholders to generate management action list. Work with partners to plan projects so they're ready to implement.
- IP IMPLEMENT PROJECTS:** take action to improve conditions within the AOC if monitoring data shows goals are not being met.
- VR VERIFY RESULTS:** after actions have been taken, monitor to determine if target has been met.
- RM FORMAL BUI REMOVAL:** targets have been met. BUI removal documentation is being prepared or reviewed, or has been submitted.

Status of Each Step:
 Not Started (circle) Underway (arrow) Complete (star)

There are health concerns with eating fish and wildlife

NEXT STEPS:

- Continue cleanup of riverbed sediments containing polychlorinated biphenyls (PCBs) and other toxins which contaminate fish and wildlife.
- As contaminated sediments are cleaned up, consumption concerns for fish and wildlife will be reassessed until goals are met.

MA DP IP VR RM

Fish & wildlife populations are degraded

NEXT STEPS:

- Worked with the Fish and Wildlife Technical Advisory Committee to identify 16 projects for improving populations. Work continues with this group to develop the management action list and implement projects.
- Continue cleanup of polluted sites which contribute to population decline.

MA DP IP VR RM

There are increased rates of fish tumors and deformities

NEXT STEPS:

- Continue cleanup of sites that contain polycyclic aromatic hydrocarbons (PAHs), PCBs, metals and other substances that cause fish tumors.
- Reassess rates of fish tumors and deformities after sediment cleanup actions are done.

MA DP IP VR RM

There is increased potential for bird and animal deformities and reproductive problems

NEXT STEPS:

- USGS study of tree swallows (an indicator species) confirmed the impairment.
- Add fish and fish-eating birds in future monitoring efforts.
- Continue cleanup of riverbed sediments to remove harmful toxins known to cause deformities and reproduction problems.

MA DP IP VR RM

Communities of sediment-dwelling organisms are degraded

NEXT STEPS:

- Continue cleanup of pollution in the riverbed sediments which harms these creatures.
- Future monitoring to determine the health of these organisms will focus on the upper estuary and will occur after polluted sediment cleanup projects are done.

MA DP IP VR RM



Left: Young sturgeon. Lower Left: Restored Menomonee River channel. Lower right: Fish consumption and water contact health advisories. Photos: DNR



Dredging activities for commerce or navigation are restricted

NEXT STEPS:

- Assess remaining polluted sediment sites and plan cleanup projects in the Milwaukee, Menomonee and Kinnickinnic Rivers, Inner and Outer Harbors, and nearshore waters of Lake Michigan.
- Complete cleanup of harmful PCBs, PAHs and heavy metals in remaining contaminated hotspots.

MA DP IP VR RM

Excessive nutrients cause undesirable algae

NEXT STEPS:

- The Milwaukee River watershed pollution reduction plan needed to improve water quality (Total Maximum Daily Load or TMDL Plan) was completed in 2018. The TMDL Plan will assist in determining next steps for this BUI.
- Determine approach to addressing this BUI (2022).

MA DP IP VR RM

Water contact through beach use or other recreation is limited

NEXT STEPS:

- In consultation with stakeholders finalize the management action list (2022).
- Support local partners to address high bacteria levels and beach closings at AOC beaches (Bradford, McKinley and South Shore).

MA DP IP VR RM

Appearance of rivers and waterfront needs improvement

BUI REMOVED

All the steps to address this Beneficial Use Impairment were successfully completed and it was officially removed in Sept. 2021.

MA DP IP VR RM

Communities of small organisms living in the water are degraded

NEXT STEPS:

- Small plants and animals living in the water are essential food sources for fish and other aquatic life.
- Evaluate results of 2021 water column toxicity assessment.
- Continue cleanup of pollution, which harms the small organisms in AOC waters.

MA DP IP VR RM

Loss of fish and wildlife habitat

NEXT STEPS:

- Continue cleanup of pollution in riverbed sediments which degrades habitat.
- Continue to work with community partners to implement the list of 11 projects that will bring back healthy, thriving and diverse habitats for fish and wildlife.

MA DP IP VR RM

